What is claimed is:

1. A method of treating hyperphosphatemia in a subject, comprising administering an isolated ASARM peptide to the subject using a dosage regimen that decreases serum phosphate levels, thereby treating hyperphosphatemia in the subject.

2. The method of claim 1, wherein the hyperphosphatemia is associated with end stage renal disease, renal osteodystrophy, chronic renal disease, renal toxicity, calcification of kidneys, kidney stones, calcification of arteries, or atherosclerotic lesions.

3. The method of claim 1, wherein at least one serine residue of the isolated ASARM peptide is phosphorylated.

4. The method of claim 3, wherein all serine residues of the isolated ASARM peptide are phosphorylated.

5. A method of treating hypophosphatemia in a subject, wherein the subject displays a normal level of endogenous ASARM peptide, comprising administering an isolated ASARM peptide to the subject using a dosage regimen that increases serum phosphate levels, thereby treating hypophosphatemia in the subject.

6. The method of claim 5, wherein the subject displaying a normal level of endogenous ASARM peptide does not have X-linked hypophosphatemic rickets or oncogenic hypophosphatemic osteomalacia.

7. The method of claim 5, wherein the hypophosphatemia is associated with hereditary hypophosphatemic rickets with hypercalciuria, autosomal dominant hypophosphatemic rickets, receptor defect rickets, familial rickets, vitamin-D dependent rickets type-1, defective 25-hydroxylase, Fanconi syndrome, oncogenous syndrome, osteodystrophy, Pagets disease, or metaphyseal dysplasia.

8. The method of claim 5, wherein at least one serine residue of the isolated ASARM peptide is phosphorylated.

9. The method of claim 8, wherein all serine residues of the isolated ASARM peptide are phosphorylated.

10. A method of treating or inhibiting osteoporosis in a subject, comprising administering an isolated ASARM peptide to the subject in a dosage regimen that decreases bone resorption, thereby treating or inhibiting osteoporosis in the subject.

11. A method of treating a subject with a disease involving pathologically elevated levels of endogenous ASARM peptide, comprising inhibiting ASARM peptide activity in the subject, thereby treating the subject with a disease involving pathologically high levels of endogenous ASARM peptide.

12. The method of claim 11, wherein the disease involving pathologically elevated levels of endogenous ASARM peptide is X-linked hypophosphatemic rickets or oncogenic hypophosphatemic osteomalacia.

13. A method of treating or inhibiting ectopic tissue mineralization in a subject, comprising administering ASARM peptide to the subject such that ectopic tissue mineralization is inhibited, thereby treating or inhibiting ectopic tissue mineralization in the subject.

14. The method of claim 13, wherein the subject has ectopic mineralization associated with periodontal disease.

15. The method of claim 13, wherein the subject has ectopic mineralization associated with kidney disease.

16. A method of inhibiting tumor growth in a subject, comprising administering one or more compounds chosen from MEPE, a peptide derived from MEPE, and an isolated ASARM peptide to the subject, thereby inhibiting tumor growth in the subject.

17. The method of claim 16, wherein the subject has a tumor of mesenchymal origin, epithelial origin, endothelial origin, neuroectodermal origin, hematologic cancer, or multiple myeloma.

18. The method of claim 16, wherein at least one serine residue of the isolated ASARM peptide is phosphorylated.

19. The method of claim 18, wherein all serine residues of the isolated ASARM peptide are phosphorylated.

20. The method of claim 16, wherein the isolated ASARM peptide and MEPE are administered.

21. The method of claim 16, wherein the isolated ASARM peptide and the peptide derived from MEPE are administered.

22. The method of claim 16, wherein MEPE and the peptide derived from MEPE are administered.

23. The method of claim 16, wherein MEPE, the peptide derived from MEPE, and the isolated ASARM peptide are administered.

24. A method of preventing cancer cells from metastasizing to bone and/or soft tissues in a subject, comprising administering at least one compound chosen from MEPE, a peptide derived from MEPE, and an isolated ASARM peptide to the subject, thereby preventing cancer cells from metastasizing to bone and/or soft tissue.

25. The method of claim 24, wherein the cancer cells are associated with breast, prostate, lung, kidney, thyroid, multiple myeloma cancers, fibrous dysplasia of bone, oat cell lung carcinomas, haemangiopericytomas, gynaecologic cancers, colon cancer, bladder cancer, cervical cancer, liver cancer, laryngeal cancer and gastrointestinal cancers.

26. The method of claim 24, wherein at least one serine residue of the isolated ASARM peptide is phosphorylated.

27. The method of claim 26, wherein all serine residues of the isolated ASARM peptide are phosphorylated.

28. The method of claim 24, wherein the isolated ASARM peptide and MEPE are administered.

29. The method of claim 24, wherein the isolated ASARM peptide and the peptide derived from MEPE are administered.

30. The method of claim 24, wherein MEPE and the peptide derived from MEPE are administered.

31. The method of claim 24, wherein MEPE, the peptide derived from MEPE, and the isolated ASARM peptide are administered.

32. A method of inhibiting cancer growth and preventing cancer cells from metastasizing to bone and/or soft tissues in a subject, comprising administering at least one compound chosen from MEPE, a peptide derived from MEPE, and an isolated ASARM peptide, thereby preventing cancer cells from metastasizing to bone and/or soft tissue.

33. The method of claim 32, wherein the cancer is associated with breast, prostate,

lung, kidney, thyroid, multiple myeloma cancers, fibrous dysplasia of bone, oat cell lung carcinomas, haemangiopericytomas, gynaecologic cancers, colon cancer, bladder cancer, cervical cancer, liver cancer, laryngeal cancer and gastrointestinal cancers.

34. The method of claim 32, wherein at least one serine residue of the isolated ASARM peptide is phosphorylated.

35. The method of claim 32, wherein all serine residues of the isolated ASARM peptide are phosphorylated.

36. The method of claim 32, wherein the isolated ASARM peptide and MEPE are administered.

37. The method of claim 32, wherein the isolated ASARM peptide and the peptide derived from MEPE are administered.

38. The method of claim 32, wherein MEPE and the peptide derived from MEPE are administered.

39. The method of claim 32, wherein MEPE, the peptide derived from MEPE, and the isolated ASARM peptide are administered.

40. A method of identifying a subject with an increased likelihood of having or developing a disease or condition involving abnormal phosphate metabolism, comprising detecting an abnormal level of endogenous ASARM peptide in the subject as compared to a control, wherein an abnormal level of endogenous ASARM peptide in the subject identifies a subject with an increased likelihood of having or developing a disease or condition involving abnormal phosphate metabolism.

41. The method of claim 40, wherein the abnormal phosphate metabolism results in hypophosphatemia.

42. The method of claim 41, wherein the subject has X-linked hypophosphatemic rickets or tumor-induced osteomalacia.

43. The method of claim 40, wherein the abnormal phosphate metabolism is characterized by decreased bone or tooth mineralization or increased bone or tooth resorption compared to a normal subject.

44. The method of claim 43, wherein the abnormal phosphate metabolism is associated with osteoporosis, periodontal disease, or dental caries.

45. The method of claim 40, wherein the subject has hyperphosphatemia.

46. The method of claim 40, wherein the abnormal phosphate metabolism is associated with periodontal disease.

47. A pharmaceutical composition, comprising an isolated ASARM peptide and a pharmaceutically acceptable carrier.

48. The pharmaceutical composition of claim 47, further comprising at least one compound chosen from MEPE and a derivative of MEPE.

49. A method of identifying a compound for treating a disease involving a pathologically elevated level of ASARM peptide, comprising:

(a) contacting a sample comprising an ASARM peptide with the compound, and

(b) detecting a decrease in biological activity of ASARM peptide as compared to a control, whereby an decrease in biological activity of ASARM peptide indicates a compound for treating a disease involving a pathologically elevated level of ASARM peptide.

50. A method of inhibiting MEPE-PHEX binding in a subject, comprising administering an isolated ASARM peptide to the subject in an amount sufficient to inhibit MEPE-PHEX binding.

51. The method of claim 50, wherein at least one serine residue of the ASARM peptide is phosphorylated.

52. The method of claim 51, wherein all serine residues of the ASARM peptide are phosphorylated.